



Practitioner's Docket No. 63264 (1062-033)

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Myron J. Maurer  
Application No.: 10/799,095  
Filed: 03/12/2004  
For: IMPACT ABSORPTION STRUCTURE

Group No.: 3683  
Examiner: Torres, Melanie

Mail Stop After Final  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Pre-Appeal Brief Request for Review**

Applicants request review of the final rejections in the above-captioned application. No amendments are being filed with this request. The request is being filed with a notice of appeal.

In response to the Final Office Action mailed on September 12, 2005 and the Advisory Action mailed on September 28, 2005, the Applicants submit this Pre-Appeal Brief Request for Review because the Examiner failed to meet her burden of establishing a *prima facie* case of obviousness in each of the three rejections.

Rejection of claims including two different materials

The Examiner rejected claims 17 (dependent on claim 10) and 23 (dependent on claim 18) as obvious over U.S. Patent No. 4,852,704 to Brockenbrough et al. ("Brockenbrough"). In this rejection, the Examiner fails to establish a *prima facie* case of obviousness by failing to identify where in the prior art each element of the claim is found and by erroneously placing the burden on the Applicants.

The Examiner's rejection from page 3 of the Final Office Action is reproduced here:

Re claims 17, 23, 24-28, Brockenbrough et al. does not teach wherein the first and second layers differ in composition. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have provided the first and second layers of different composition since the applicant has not disclosed that having different compositions solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with a variety of different compositions such as metal or plastic.<sup>1</sup>

In response to Applicants' previous arguments regarding this rejection, the Examiner states on page 4 of the Final Office Action:

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<sup>1</sup> This rejection was repeated from the first Office Action mailed on January 14, 2005.

Further, it has been held that it is within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice (In re Leshin, 125 USPQ 416).

This rejection fails to establish a *prima facie* case because the Examiner does not identify where in the prior art where each element of the claim is found. By the Examiner's own admission the cited prior art does not teach the use of differing compositions in the first and second layers of the article of manufacture (claim 17) or energy absorbing structure (claim 23).

The law is clear: a *prima facie* case of obviousness requires that the Examiner identify each and every element of the claimed invention in the prior art; failure to do so means that the Examiner has not made a *prima facie* case of obviousness. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

The Examiner attempts to rehabilitate the rejection by shifting the burden to the Applicants. The Examiner states that the Applicants have not disclosed that having different compositions in the energy absorber solves any stated problem or is for any particular purpose. However, the burden does not lie with the Applicants to provide such information because the Examiner has not shown where in the prior art that element of the claim is found. In re Oetiker, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992)(the examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of obviousness).

Notwithstanding the error of the Examiner shifting the burden, the Applicants do state a benefit for the use layers having different compositions. First, as seen in paragraph [0041] of the application, Applicants disclose that in one embodiment, the layers may have different impact strengths as a result of the different materials used for the layers:

[0041] The second aspect of the multi-layer absorber with differing materials is shown in cross-section in Fig. 4B. Here, the first layer 220 includes corrugations 242 (or protrusions) into which are nested the corrugations 224 of the second layer 246 where the material of first corrugations differs from the material of the second corrugations. In this embodiment, the corrugations may be sized and shaped so that there is no appreciable space between the floors 228 and 230 of the two corrugations. The materials of the corrugations differ in their compositions and consequently their impact strength. In a preferred aspect, the first layer has a lower impact strength than the second layer. In a preferred embodiment, the differing materials of the corrugation may be combined with surface features having different structures e.g. different wall thickness. (emphasis added).

This is followed by an example where a two layer energy absorber is compared to a known foam energy absorber via computer simulation. One of the predicted results is improved performance of the energy absorber where the layers have different impact strengths, as seen in paragraph [0060]:

[0060] Thus, a double layer conical structure comprised of 24 mm PS sheet being forced into a 19 mm PE sheet exhibits approximately 8% higher HIC(d) values than Strandfoam EA 1000, respectively. In addition, the data also demonstrates that forcing a weaker (e.g. taller) sheet into a stiffer (e.g. shorter) sheet improves normalized impact performance approximately 25% with the same weight. (Emphasis added).

This conclusion, combined with the teaching of paragraph [0041], teaches the benefits of a two layer energy absorber. Namely, that improved performance could be obtained by making the layers have different impact strengths. This teaching is not diminished because the example pertains explicitly to layers having different height surface features. The conclusion is clear that it pertains generally to situations where the layers have different impact strengths, whether due to different materials, different surface feature heights, or different wall thicknesses(see paragraph [0040]).

Thus, even if the Examiner is permitted to shift the burden to the Applicants and require that the Applicants show the purpose of the claim element, Applicants have met the burden. In particular, Applicants have shown a benefit to differing materials in the energy absorber. Brockenbrough does not teach or suggest that any benefit from the use of layers having different impact strengths or other characteristics.

Further, the Examiner states that material selection is a matter of design choice. Even if the general supposition of the Examiner is true, the supposition does not apply here. In particular, claims 17 and 23 are not merely directed to a specific material (e.g. polypropylene) for use in an energy absorber. Rather, the claims 17 and 23 are directed to an energy absorber that comprises at least two layers with different materials. Thus, this is not the situation where a material selection is being made. Rather it is a situation where the relationship between two aspects of the claimed invention is being further defined. Namely, the composition of one layer is being distinguished from a second layer. For at least these reasons, the Examiner has failed to make a *prima facie* case of obviousness and withdrawal of the rejection is requested.

#### Rejection of claim including a hinge

The Examiner also rejected claims 1, 28 and 29 as obvious over Brockenbrough.<sup>2</sup> In this rejection, the Examiner fails to establish a *prima facie* case of obviousness by failing to identify where in the prior art each element of the claim is found. In particular, the Examiner fails to identify where in the prior art a ‘hinge’ is disclosed.

The Examiner never addresses the hinge element in the first Office Action or the Final Office Action even though the element is found in four different claims in the original claim set. The Examiner addresses the hinge element for the first time in the Advisory Action mailed September 28, 2005. In the Advisory Action, the Examiner states that: “Element 17 of Brockenbrough et al. can clearly be interpreted as a ‘hinge’”.

However, the Examiner’s use of the word ‘hinge’ to describe element 17 is not warranted. A skilled artisan, after reviewing the specification of Brockenbrough, would not understand (much less interpret) the item denoted by reference numeral 17 to be the same or equivalent to a hinge. Indeed, a skilled artisan would understand reference numeral 17 to denote something that has the opposite functionality of a hinge.

The item at reference numeral 17 is described in Brockenbrough as:

a pair of brackets 17 (FIG. 1) and 18 (FIG. 2) for securing opposed narrow ends of the strips together. The brackets are secured to vertical posts of a vehicle door one of which is partially illustrated at 22 in FIG. 1. (column 3, line 1-5).

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<sup>2</sup> Although the rejection was titled as based only on Brockenbrough, the body of the rejection mentions U.S. Patent No. 5,011,642 to Welygan. No mention of Welygan is made other than concerning extrusion.

The brackets are further described as:

Brackets 17 and 18 are stiffer and generally thicker than the strips. Tabs 34 and 36 of each bracket are bent over as shown in FIG. 3a so as to secure the ends of the strips. (column 3, lines 35-38).

A bracket for securing together several components cannot be considered the same as a hinge. This rises to the level of an error in fact on the part of the Examiner.

This error in fact is compounded by the Examiner in the rejection of the method claims. The bracket 17 of Brockenbrough does not teach or suggest actuating a hinge to manufacture an energy absorber (as in claim 28). Further, the bracket 17 of does not teach or suggest the extruding a layer of material with surface features separated by a hinge. As above, the bracket 17 conveys an opposite connotation to a skilled artisan than the one ascribed to it by the Examiner.

The same reasoning applies to the claims dependent from claim 1 and 29. For at least these reasons, the Examiner has failed to make a *prima facie* case of obviousness and withdrawal of the rejection is requested.

#### Rejection of claims including the use of friction

The Examiner also rejected claims 7, 15 and 21 as obvious over Brockenbrough.<sup>3</sup> In this rejection, the Examiner fails to establish a *prima facie* case of obviousness by failing to identify where in the prior art each element of the claim is found. In particular, the Examiner fails to identify where in the prior art where friction, as means of impact energy dissipation, is disclosed.

The Examiner never directly addresses the friction element in her rejection, thus making it difficult for the Applicants to respond. Again it appears that the Examiner is attempting to shift the burden to the Applicants, when in fact the Examiner has failed to meet her burden of identifying where in the prior art the use of friction to dissipate impact energy is disclosed.

Further, Applicants test for the effect of friction through a computer simulation by comparing energy absorbers that include a lubricant between the layers, as seen in paragraphs [0061] and [0062], and Table 2:

[0061] In another series of experimental tests, the effect of friction was investigated using CAE. Experimental tests on double layer conical structures with a 5 mm offset distance give the following results (utilizing structures such as seen in Fig. 3):

Table 2

Description	Comments	Total Thickness	HIC(d)
24 mm PS->24 mm PS	Control	29	510
24 mm PS->24 mm PS	Control	29	535
24 mm PS->24 mm PS	Lubricated cones	29	557
24 mm PS->24 mm PS	Lubricated cones	29	583

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<sup>3</sup> Again, the rejection was titled as based only on Brockenbrough, but the body of the rejection mentions U.S. Patent No. 5,011,642 to Welygan. No mention of Welygan is made other than concerning extrusion.

[0062] Thus, the data demonstrates that the frictional dissipation provided by a 5 millimeter offset improves head impact protection by approximately 10% versus similar samples with a lubricating agent.

Brockenbrough does not teach or suggest that any benefit from the use of friction to dissipate impact energy.

The same reasoning applies to the claims dependent from claim 7, 15 and 21. For at least these reasons, the Examiner has failed to make a *prima facie* case of obviousness and withdrawal of the rejection is requested.

#### Conclusion

In view of Applicants' remarks, the Examiner's rejections are believed to contain clear error. Accordingly, Applicants submit that the present application contains allowable subject matter and is in condition for allowance. Should the Review Panel or the Examiner have any question or wish to further discuss this application, Applicants request that the undersigned be contacted at (248) 292-2920.

If for some reason Applicants have not requested a sufficient extension and/or have not paid a sufficient fee for this response and/or for the extension necessary to prevent the abandonment of this application, please consider this as a request for an extension for the required time period and/or authorization to charge Deposit Account No. 04-1512 for any fee which may be due.

Date: December 12, 2005



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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03/12/2004

Myron J. Maurer

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09/28/2005

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EXAMINER

TORRES, MELANIE

ART UNIT

PAPER NUMBER

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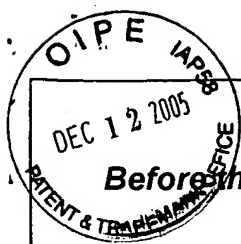
DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Received

OCT 03 2005

Dobrusin & Thennisch, P.C.



**Advisory Action  
Before the Filing of an Appeal Brief**

Application No.

10/799,095

Applicant(s)

MAURER ET AL.

Examiner

Melanie Torres

Art Unit

3683

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 12 September 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.  
b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.  
Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: 1,3-10,13-29,32 and 33.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

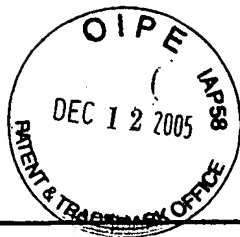
**REQUEST FOR RECONSIDERATION/OTHER**

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet.  
12. ☒ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). 09/12/2005  
13. ☐ Other: \_\_\_\_\_.

Continuation of 11. does NOT place the application in condition for allowance because: The rejections are maintained as discussed in the Final office action. Element 17 of Brockenbrough et al. can clearly be interpreted as a "hinge." Further, applicant does NOT discuss that having layers of differing compositions serves any purpose. What is discussed in paragraph 48 is simply a comparison between single layer absorbers and two layer absorbers. No mention is made of material.

*Melanie Torres*  
Melanie Torres  
Primary Examiner  
9-26-05





**INFORMATION DISCLOSURE  
STATEMENT BY THE APPLICANT**

Serial No.:	10/799,095
Filing Date:	03/12/2004
First Inventor:	Myron J. Maurer
Art Unit:	3683
Examiner:	Torres, Melanie
Attorney Docket Number:	1062-033

Examiner's  
Signature

*Melanie Torres*

Date

Considered

*9-26-05*

Examiner's  
Initials

Document Number

Publication Date  
MM-DD-YYYY

Name of Inventor or Author

*MT*

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06/16/2005

Cornier et al.

6,679,967

01/20/2004

Carroll, III et al.

6,682,128

01/27/2004

Carroll, III et al.

*MT*

6,752,450

06/22/2004

Carroll, III et al.